

Annual Drinking Water Quality Report for 2017 Oak Hill Water Association, Charles County, Maryland

The safety of our water supply system:

We are pleased to present the Annual Drinking Water Report for the 2017 monitoring period as required by State and Federal regulation. These reports are required to be issued within six months of the following year after all the test results are tabulated and examined. These reports are required for every public drinking water system in the Country. The report outlines the quality of our finished drinking water, including details about where your water comes from, what it contains, and how it compares to standards set by the regulatory agencies: The Maryland Department of the Environment (MDE) and the Environmental Protection Agency (EPA). Last year's tests were conducted for numerous contaminants. All tests results were well below the Maximum Contaminant Level (MCL) as set by State and Federal regulations.

Where does my water come from?

Our drinking water comes from a single 6 inch diameter artesian well drilled into the Magothy Aquifer, which, in our part of the County, lies about 400-500 feet below the earth's surface. An aquifer is a strata of saturated sands which is tapped by drilling wells into it and pumping the water to the surface by way of a submersible pump or pumps. The water is purified as it moves through the saturated sands from the surface point of entry to the point of discharge; this distance can be many miles and can take many years to travel from Point A to Point B. After the water is pumped out of the aquifer, we add chlorine disinfection to protect against microbial contaminants that may enter through the distribution system, plus we add a sequestering agent, which holds any Iron that may be naturally occurring in suspension to eliminate staining of laundry, etc. Please note, the Iron is not actually physically removed from the water, it is "Sequestered". F.Y.I.: Our well is drilled to a depth of 453 feet; the pump is set at a depth of 319 feet. Our pump delivers water to the surface at a rate of 50 gallons/minute.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/ AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA, Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. OHWA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>. Note: Every five years the OHWA is required to test five random locations within the water distribution system for Lead and Copper. Should any violations be found the community would be promptly notified.

Why are there contaminants in my drinking water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present include: microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or



be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Water Quality Data Table:

The attached table lists all of the drinking water contaminants detected that are applicable for the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Federal and State agencies do not require us to check for certain contaminants every year. The reason being that the concentrations of these particular contaminants are low and do not readily change from year to year.

Note: We must monitor for total Coliform bacteria and Fecal Coliform bacteria on a monthly basis. During 2017 all results were negative. We also monitor for nitrates once per year; this result was below the laboratory's detection limit.

Some regulated contaminants were present in the water system at levels below the maximum allowable level (MCL) which is determined safe by the EPA. These contaminants are shown on the attached, along with the MCL and MCLG for each one detected. It is important to understand that the detection of these substances in the drinking water does not constitute a known threat to public health because they were found only at levels less than the MCL and below the level that EPA currently feels may constitute a health threat. MCL's are set at very stringent levels, and our water has proved to be below those levels for the contaminants listed.

Definitions & Descriptions:

In this report you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Action Level(AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal - The "Goal"(MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDGLs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

SEE THE ATTACHED



Source Water Assessment and its availability:

The Maryland Department of the Environment performed an assessment of our source water in 2004, which outlined the potential sources of contamination. The assessment determined that the Oak Hill Water Supply was not susceptible to contaminants originating from land surface due to the protected nature of confined aquifers but is susceptible to naturally occurring radiological contaminants. The Source Water Assessment report was provided to the County Health Department, the County Department of Planning, and is available at our County libraries. It should also be posted on the MDE website and is available at www.mde.maryland.gov.

Information on National Primary Drinking Water Regulation Violations:

We are proud of our long standing history of compliance with State and federal drinking water regulations and water quality standards. Unfortunately, there were three violations to MDA and EPA standards for the 2017 reporting cycle that I wish to explain:

First, I can assure you by copies of our laboratory reports that there were no violations to our water quality. Where I failed was in collecting and submitting certain samples in accordance with MDE guidelines. The test for Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5) were due by August, 2017. That did not happen until October, 2017. The reminder of the upcoming test requirement was missed when I was out-of-town. When I received notice that I had missed the deadline I promptly had the necessary samples collected and the results sent to MDE. This particular test is required every three years. The Lead & Copper Rule requires testing every five years. I was suppose to test and report the findings to MDE by October 1, 2017. That did not happen. I received a reminder that I had missed the due date and I promptly resolved the issue. These monitoring deadlines are important and I am embarrassed that I let these three slip by me. Again, the water quality from our distribution system was never compromised.

What is our individual role as a resident of Oak Hill?

Each of the fifty-five properties served by the Oak Hill Water Association owns an equal share of the water system. In order to maintain a safe and dependable water supply, the costs of operation, maintenance, and necessary improvements are reflected in the rate structure and remain the responsibility of each property owner. Rate adjustments may be necessary in order to address needed improvements, repairs, or to comply with future regulations. We set our water rates so that the system pays for itself, thereby (hopefully) avoiding the necessity of charging each household for revenue short-falls. It is essential that each and every property owner, or designated responsible person, faithfully pay their share. You may be aware that there is a stand-by artesian well currently being drilled not far from the existing well house. This update to our water system will cost many thousands of dollars. If you are not up-to-date with your water bill please pay up immediately.

The Oak Hill Water Association consists of a single operator licensed by the State of Maryland, up to three elected officers, and the community itself with each homeowner holding an equal share of the water supply system. The operator has more than 40 years of experience in the field and is required to attend Continuing Education Training in an effort to keep up-to-date with the latest in water treatment techniques as well as State and Federal regulations regarding water quality. We encourage residents to learn about our water system. It is our desire to continually provide the best quality drinking water possible for our Oak Hill community. Interested parties can also obtain a temporary certification to assist with operation and maintenance of our water system. This certification could possibly lead to obtaining a permanent Water System Operator's license.

If you have any questions about this report or concerning your water service, please contact Jim Story (system operator) at 4431 Bellewood Drive or by email at jmstory@earthlink.net. In case of emergency, contact Jim at 301-932-0718 or (cell) 301-885-8563. *Officer of the Water Association is Brian Berringer (President.) The community Annual Crab Feast also serves as a platform for the Water Association's annual meeting. Additional meetings can be called as needed.*



2017 Regulated Contaminants Detected

Lead and Copper

Definitions:

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.
Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.



Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2017	1.3	1.3	0.13	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Water Quality Test Results

Definitions:

The following tables contain scientific terms and measures, some of which may require explanation.

Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

Maximum Contaminant Level or MCL:

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Level 1 Assessment:

A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Maximum Contaminant Level Goal or MCLG:

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Level 2 Assessment:

A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Maximum residual disinfectant level or MRDL:

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG:

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

na:

not applicable.

pCi/L

picouries per liter (a measure of radioactivity)

ppb:

micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

ppm:

milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

ppt:

parts per trillion, or nanograms per liter (ng/L)

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	2017	0.7	0.6 - 0.7	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Total Trihalomethanes (TTHM)	2017	5.5	5.5 - 5.5	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Fluoride	09/09/2015	0.15	0.15 - 0.15	4	4.0	ppm	N	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	09/09/2015	8.8	8.8 - 8.8	0	50	pCi/L	N	Decay of natural and man-made deposits.
Combined Radium 226/228	09/09/2015	0.3	0.3 - 0.3	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	09/09/2015	2.6	2.6 - 2.6	0	15	pCi/L	N	Erosion of natural deposits.
Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Heptachlor epoxide	09/09/2015	100	100 - 100	0	200	ppt	N	Breakdown of heptachlor.

